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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/051,254

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Matthew B. Shoemaker

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EXAMINER

LEE, ANDREW CHUNG CHEUNG

ART UNIT

PAPER NUMBER

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

12/26/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/051,254

Applicant(s)

SHOEMAKE, MATTHEW B.

Examiner

Andrew C. Lee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The indicated allowability of claims 11 – 13, 18 - 20 is withdrawn in view of the newly discovered reference(s) to Wheatley III et al. (US 6850499 B2), Gesbert et al. (US 6760882 B1), Williams et al. (US 6920172 B2). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 6, 9 – 15, 16 – 21, 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Wheatley III et al. (US 6850499 B2).

Regarding claim 1, Wheatley III et al. disclose the limitation of a method for jointly controlling the data rate and power level of data transmission across a communication channel (recited “the data rate is determined by the largest C/I measurement” as jointly controlling the data rate and power level of data transmission; Abstract, lines 2 – 3; column 3, lines 10 – 20), comprising: providing a plurality of transmit parameter pairs that each include information indicative of a data rate and information indicative of a

power level (recited “request for the highest data rate the measured C/I can reliably support; column 5, lines 49 – 56, Table 1, column 12); transmitting at the data rate and power level indicated by a selected one of the transmit parameter pairs (column 5, lines 49 – 59, Table 1, column 12); and sequentially selecting different ones of the transmit parameter pairs to be the selected transmit parameter pair, including determining which of the transmit parameter pairs will be the next selected transmit parameter pair based on the currently selected transmit parameter pair and a communication quality condition associated with the communication channel (recited “supported data rates and thresholds” ; Table 1, column 12, lines 26 – 54).

Regarding claim 6, Wheatley III et al. disclose the limitation of the method of claimed wherein the communication channel is a wireless communication channel (recited “the forward link is transmitted over the air through antenna” as the communication channel is a wireless communication channel; Fig. 2, column 8, lines 43 – 44).

Regarding claims 9, 16 Wheatley III et al. disclose the limitation of the method and apparatus of claimed wherein the providing step includes providing an ordered list of the plurality of transmit parameter pairs (recited “the request is an index into a table of data rates”; column 5, lines 49 – 59; Table 1, column 12, lines 26 – 54).

Regarding claims 10, 17, Wheatley III et al. disclose the limitation of the method and apparatus of claimed wherein the ordered list orders the data rate for a first group of the transmit parameter pairs from lowest to highest, the data rate for each of the transmit parameter pairs of the first group paired with a common maximum power level

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(Table 1, column 12, row data rates (kbps) from 38.4 (kbps) to 2457.6 (kbps) indicating the data rate for a first group of the transmit parameter pairs from lowest to highest; and row Threshold (dB) from -11.5 to 9.7 (dB) indicating each of the transmit parameter pairs of the first group paired with a common maximum power level; column 12, lines 41 - 61).

Regarding claims 11, 18, Wheatley III et al. disclose the limitation of the method and apparatus of claimed wherein the ordered list further orders the power level for a second group of the transmit parameter pairs from highest to lowest, the power level for each of the transmit parameter pairs of the second group paired with a common maximum data rate (Table 1, row Threshold (dB) from -11.5 to 9.7 (dB) further orders the power level for a second group of the transmit parameter pairs from highest to lowest).

Regarding claims 12, 19, Wheatley III et al. disclose the limitation of the method of claimed wherein the ordered list includes a plurality of adjacent integer indices respectively associated with the plurality of transmit parameter pairs (Table 1, row Rate index, column 12, lines 26 - 32).

Regarding claims 13, 20, Wheatley III et al. disclose the limitation of the method and apparatus of claimed wherein the sequentially selecting step includes stepping incrementally through the indices (Table 1, recited "the request is an index into a table of data rates", column 5, lines 49 - 59; column 12, lines 33 - 54).

Regarding claims 14, 21, Wheatley III et al. disclose the limitation of the method and apparatus of claimed wherein the determining step includes evaluating the

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communication quality condition based on the currently selected transmit parameter pair (Table 1, column 13, lines 30 – 30 – 39).

Regarding claims 15, 23, Wheatley III et al. disclose the limitation of an apparatus for jointly controlling the data rate and power level of data transmission across a communication channel (recited “the data rate is determined by the largest C/I measurement” as jointly controlling the data rate and power level of data transmission; Abstract, lines 2 – 3; column 3, lines 10 – 20), comprising: a storage portion for storing a plurality of transmit parameter pairs that each include information indicative of a data rate and information indicative of a power level, said storage portion having an output for outputting a selected one of the transmit parameter pairs (Fig. 3 A, column 17, lines 41 – 48; lines 54 – 66); a communication interface coupled to said storage portion output for transmitting at the data rate and power level indicated by the selected transmit parameter pair (column 18, lines 61 – 63; column 19, lines 1 – 20); and a controller coupled to said storage portion for sequentially selecting different ones of the transmit parameter pairs to be the selected transmit parameter pair that is output from said storage portion, said controller including an input for receiving information indicative of a communication quality condition associated with the communication channel, and said controller operable for determining which of the transmit parameter pairs will be the next selected transmit parameter pair based on the communication quality condition and the currently selected transmit parameter pair (Table 1, column 12, lines 26 – 54; recited “variable rate controller” as a controller; column 17, lines 63 – 67, column 18, lines 1 – 5; column 19, lines 1 – 20).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 3, 4, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley III et al. (US 6850499 B2) in view of Gesbert et al. (US 6760882 B1).

Regarding claim 2, Wheatley III et al. disclose the limitation of a method for jointly controlling the data rate and power level of data transmission across a communication channel (recited "the data rate is determined by the largest C/I measurement" as jointly controlling the data rate and power level of data transmission; Abstract, lines 2 – 3; column 3, lines 10 – 20). Wheatley III et al. do not disclose expressly the method of claimed wherein the communication quality condition includes a signal to noise ratio. Gesbert et al. disclose the limitation of the method of claimed wherein the communication quality condition includes a signal to noise ratio (column 5, lines 42 – 53; column 14, lines 32 – 35, element "SNR"). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wheatley III et al. to include the method of claimed wherein the communication quality condition includes a signal to noise ratio such as that taught by Gesbert et al. in order to provide wireless communication systems and methods, and more particularly to mode selection for encoding data for transmission in a wireless communication channel based on statistical parameters (see Gesbert et al., column 1, lines 8 – 12).

Regarding claim 3, Wheatley III et al. disclose the limitation of a method for jointly controlling the data rate and power level of data transmission across a communication channel (recited "the data rate is determined by the largest C/I measurement" as jointly controlling the data rate and power level of data transmission; Abstract, lines 2 – 3; column 3, lines 10 – 20). Wheatley III et al. do not disclose expressly the method of claimed wherein the communication quality condition includes a signal to interference noise ratio. Gesbert et al. disclose the limitation of the method of claimed wherein the communication quality condition includes a signal to interference noise ratio (column 5, lines 42 – 53; column 14, lines 32 – 35, element "SINR"). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wheatley III et al. to include the method of claimed wherein the communication quality condition includes a signal to interference noise ratio such as that taught by Gesbert et al. in order to provide wireless communication systems and methods, and more particularly to mode selection for encoding data for transmission in a wireless communication channel based on statistical parameters (see Gesbert et al., column 1, lines 8 – 12).

Regarding claim 4, Wheatley III et al. disclose the limitation of a method for jointly controlling the data rate and power level of data transmission across a communication channel (recited "the data rate is determined by the largest C/I measurement" as jointly controlling the data rate and power level of data transmission; Abstract, lines 2 – 3; column 3, lines 10 – 20). Wheatley III et al. do not disclose expressly the method of claimed wherein the communication quality condition includes a packet error rate. Gesbert et al. disclose the limitation of the method of claimed wherein the

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communication quality condition includes a packet error rate (column 5, lines 42 – 53; column 14, lines 32 – 35, element “PER”). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wheatley III et al. to include the method of claimed wherein the communication quality condition includes a packet error rate such as that taught by Gesbert et al. in order to provide wireless communication systems and methods, and more particularly to mode selection for encoding data for transmission in a wireless communication channel based on statistical parameters (see Gesbert et al., column 1, lines 8 – 12).

Regarding claim 5, Wheatley III et al. disclose the limitation of a method for jointly controlling the data rate and power level of data transmission across a communication channel (recited “the data rate is determined by the largest C/I measurement” as jointly controlling the data rate and power level of data transmission; Abstract, lines 2 – 3; column 3, lines 10 – 20). Wheatley III et al. do not disclose expressly the method of claim 1 wherein the communication quality condition includes a function of a signal to noise ratio and a signal to interference noise ratio. Gesbert et al. disclose the limitation of the method of claim 1 wherein the communication quality condition includes a function of a signal to noise ratio and a signal to interference noise ratio (column 5, lines 42 – 53; column 14, lines 32 – 35, elements “SNR and SINR”). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wheatley III et al. to include the method of claim 1 wherein the communication quality condition includes a function of a signal to noise ratio and a signal to interference noise ratio such as that taught Gesbert et al. in order to provide wireless communication

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systems and methods, and more particularly to mode selection for encoding data for transmission in a wireless communication channel based on statistical parameters (see Gesbert et al., column 1, lines 8 – 12).

6. Claims 7, 8, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley III et al. (US 6850499 B2) and Gesbert et al. (US 6760882 B1) as applied to claims 1 – 6, 9 – 15, 16 – 21, 23, above, and further in view of Williams et al. (US 6920172 B2).

Regarding claim 7, both Wheatley III et al. and Gesbert et al. do not disclose expressly the limitation of the method of claimed wherein the communication channel is a Bluetooth communication channel. Williams et al. disclose the limitation of the method of claimed wherein the communication channel is a Bluetooth communication channel (recited “can receive despread and ultimately demodulate spread spectrum signals according to two standards, first a ‘direct-sequence’ spread spectrum signal conforming to IEEE Standard 802.11b and secondly a frequency-hopped spread spectrum signal conforming to the Bluetooth 1.0 specification” as the communication channel is a Bluetooth communication channel; column 3, lines 25 – 35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify both Wheatley III et al. and Gesbert et al. to include a method of claimed wherein the communication channel is a Bluetooth communication channel such as that taught by Williams et al. in order to provide spread spectrum radio receivers and

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particularly those which include two receiving channels for the respective reception, despreading and demodulation of signals coded by a respective spread spectrum technique as suggested by Williams al., (see column 1, lines 7 – 10).

Regarding claim 8, both Wheatley III et al. and Gesbert et al. do not disclose expressly the limitation of the method of claimed wherein the communication channel is an IEEE 802.11b communication channel. Williams al. disclose the limitation of the method of claimed wherein the communication channel is an IEEE 802.11b communication channel (recited “can receive despread and ultimately demodulate spread spectrum signals according to two standards, first a ‘direct-sequence’ spread spectrum signal conforming to IEEE Standard 802.11b” as the communication channel is an IEEE 802.11b communication channel; column 3, lines 25 – 35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify both Wheatley III et al. and Gesbert et al. to include the method of claimed wherein the communication channel is an IEEE 802.11b communication channel such as that taught by Williams al. in order to provide spread spectrum radio receivers and particularly those which include two receiving channels for the respective reception, despreading and demodulation of signals coded by a respective spread spectrum technique as suggested by Williams al., (see column 1, lines 7 – 10).

Regarding claim 22, both Wheatley III et al. and Gesbert et al. do not disclose expressly the limitation of the apparatus of claimed provided in one of a Bluetooth and an IEEE 802.11b transmitter. Williams al. disclose the limitation of the apparatus of claimed provided in one of a Bluetooth and an IEEE 802.11b transmitter (recited “ a

transmitter or receiver or transceiver", as one of a Bluetooth and an IEEE 802.11b transmitter; Fig. 2, column 3, lines 25 – 25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify both Wheatley III et al. and Gesbert et al. to include the apparatus of claimed provided in one of a Bluetooth and an IEEE 802.11b transmitter such as that taught by Williams al. in order to provide provide spread spectrum radio receivers and particularly those which include two receiving channels for the respective reception, despreading and demodulation of signals coded by a respective spread spectrum technique as suggested by Williams al., (see column 1, lines 7 – 10).

Response to Arguments

7. Applicant's arguments filed on 10/13/2006 with respect to claims 1 – 23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Zhang (US 6711416 B1) discloses fixed wireless communication system adjusts the downlink data transmission power based on the location of a recipient remote subscriber unit to minimize co-channel interference.

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- Shiotsu et al. (US 2001/0051530 A1) teach Communication monitoring and controlling for prevention of RF signal interference in information processing device having plural wireless communication units
- Love et al. (5862453) disclose power control in a spread-spectrum communication system takes place by determining origination power of a traffic channel based on a number of active demodulators and pilot channel signal quality

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ACL/

Dec 18, 2006

A handwritten signature in black ink, appearing to read 'Wing Chan', written in a cursive style.

WING CHAN
SUPERVISORY PATENT EXAMINER